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ABSTRACT

This activity guide, developed to provide hands-on environmental education activities geared to Pettigrew State Park in North Carolina, is targeted for grades 5, 6, and 7 and meets curriculum objectives of the standard course of study established by the North Carolina Department of Public Instruction. Three types of activities are included: pre-visit, on-site, and post-visit. The on-site activity is conducted at the park, while pre- and post-visit activities are designed for the classroom. Major concepts included are: archeology, Carolina Algonkian Indians, preservation of cultural resources, research methods, and protection. Includes a vocabulary list, scheduling worksheet, parental permission form, North Carolina Parks and Recreation program evaluation, and information about the Pettigrew State Park and Native Americans of Eastern North Carolina. An appendix contains a reference guide to projectiles points and ceramic vessels found at Lake Phelps. (MKR)

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SECRETS OF

LAKE PHELPS

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Pettigrew State Park

An Environmental Education Learning Experience

Designed for Grades 5-7

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SECRETS OF

LAKE PHELPS

Pettigrew State Park

An Environmental Education Learning Experience

Designed for Grades 5-7

"The archaeological significance of Lake Phelps lies in the fact that the sites there represent use of the lake and its surrounding environment during every known cultural period of North Carolina prehistory and history; more important, the lake has preserved the wooden boats used by the people who inhabited the sites to seek out the resources they required. Lake Phelps offers a unique opportunity to study human use of a special environmental niche in the North Carolina coastal plain."

- David Sutton Phelps

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CP&L

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was developed by

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Table of Contents

1. **Introduction**
   - Introduction to the North Carolina State Parks System 1.1
   - Introduction to Pettigrew State Park 1.2
   - Introduction to the Activity Packet for Pettigrew State Park 1.6
   - Introduction to the Native Americans of Eastern North Carolina 1.7

2. **Activity Summary** 2.1

3. **Pre-Visit Activity**
   - Trip to Lake Phelps 3.1

4. **On-Site Activity**
   - Archaeology at Lake Phelps 4.1

5. **Post-Visit Activity**
   - Puzzle Pieces 5.1

6. **Vocabulary** 6.1

7. **References** 7.1

8. **Appendix** 8.1

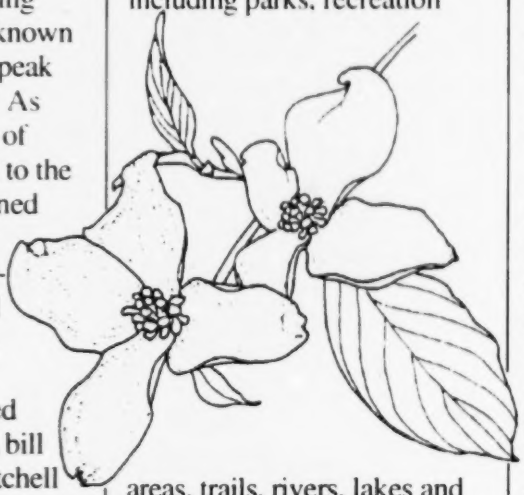
9. **Forms** 9.1

10. **Notes** 10.1

Introduction to the North Carolina State Parks System

Preserving and protecting North Carolina's natural resources is actually a relatively new idea. The seeds of the conservation movement were planted early in the 20th century when citizens were alerted to the devastation of Mount Mitchell. Logging was destroying a well-known landmark - the highest peak east of the Mississippi. As the magnificent forests of this mile-high peak fell to the lumbermen's axe, alarmed citizens began to voice their opposition. Governor Locke Craig joined them in their efforts to save Mount Mitchell. Together they convinced the legislature to pass a bill establishing Mount Mitchell as the first state park.

That was in 1915. The North Carolina State Parks System has now been established for more than three quarters of a century. What started out as one small plot of public land has grown into 59 properties across the state, including parks, recreation



areas, trails, rivers, lakes and natural areas. This vast network of land boasts some of the most beautiful scenery in the world and offers endless recreation opportunities. But our state parks system offers much more than scenery and recreation. Our lands and waters contain unique and valuable archaeological, geological and biological resources that are important parts of our natural heritage.

As one of North Carolina's principal conservation agencies, the Division of Parks and Recreation is responsible for the more than 125,000 acres that make up our state parks system. The Division manages these resources for the safe enjoyment of the public and protects and preserves them as a part of the heritage we will pass on to generations to come.

An important component of our stewardship of these lands is education. Through our interpretation and environmental education services, the Division of Parks and Recreation strives to offer enlightening programs which lead to an understanding and appreciation of our natural resources. The goal of our environmental education program is to generate an awareness in all individuals which cultivates responsible stewardship of the earth.

For more information contact:

NC Division of Parks and Recreation
P.O. Box 27687
Raleigh, NC 27611-7687
919/ 733-4181

Introduction to Pettigrew State Park

Pettigrew State Park is comprised of 16,600 acre Lake Phelps and the 1,143 acres of land on which the park facilities are located. These include: picnic area, information center, campground, trails and boat ramp. The park is located off of US 64, seven miles south of Creswell, North Carolina, in Washington and Tyrrell counties.

Lake Phelps

Lake Phelps was formed on a vast peninsula between the Albemarle Sound and the Pamlico River. Scientists long have puzzled about its origin and have proposed many hypotheses, including underground springs, wind and wave action, meteor showers, peat burn and glacial activity. As of yet, no one theory has won universal acceptance.

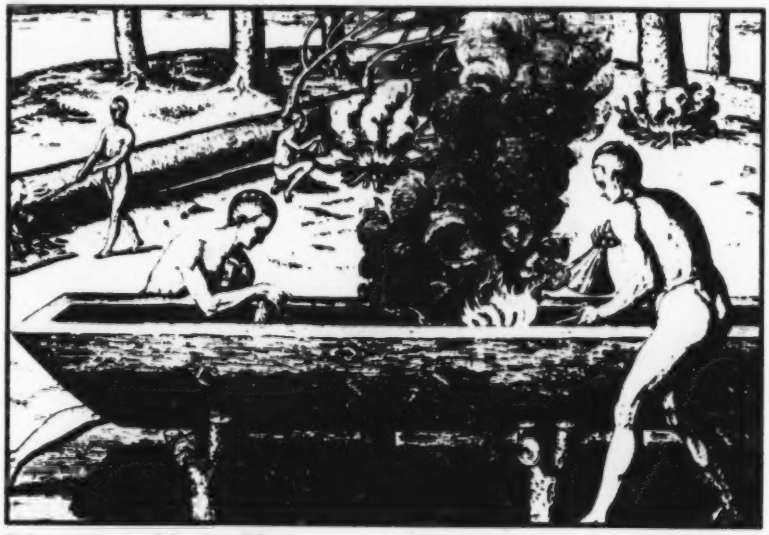
Sitting at one of the highest elevations in the area, Lake Phelps is shallow with an average depth of 4.5 feet and a maximum depth of 9 feet. Its crystal clear waters are not fed by streams or springs but depend upon rainfall, making it one of the cleanest lakes in the state. The unusual ecology of the lake supports many species of animals that usually do not thrive in such an environment.

History Highlights

From the mysterious origin of Lake Phelps to the present day, North Carolina's largest state park has a rich and fascinating history, offering a glimpse into the relationship of human cultures and nature over the past 10,000 years.

Native American Life

Artifacts found in the area are evidence that Native Americans were present as early as 8000 B.C. Thousands of relics, including pottery and spearpoints, have been uncovered. The most fascinating discovery is a collection of dugout canoes found sunken in the lake, some of them nearly 4,400 years old.



Discovery of Lake Phelps

Prior to the colonial discovery of Lake Phelps in 1755, the swampy area was known as the Great Eastern Dismal and the Great Alligator Dismal. The wilderness was so fearsome that explorers refused to enter it. Tradition holds that a group of hunters ventured into this "haunt of beasts" to hunt and to look for farmland. Most of the men turned back, but as the remaining few were about to leave, Benjamin Tarkington climbed a tree and saw the lake a short distance away. His companion, Josiah Phelps, ran into the water while Tarkington was still up in the tree. The first in the water, he claimed the right to name it Lake Phelps.

Somerset Place

The area surrounding Lake Phelps was developed by Josiah Collins, who emigrated from England and settled in Edenton. Collins and his two partners in the Lake Company drained the swamp, transforming the land into productive agricultural fields and prosperous plantations. Somerset Place, named for Collins' home county of Somersetshire in England, was established about

1787. Enslaved people were brought from Africa to dig a 6-mile canal connecting Lake Phelps with the Scuppernong River. The canal, a remarkable feat of engineering for its time, served as a transportation route and a channel for draining the swamp between the river and Lake Phelps. Today, Somerset Place is a state historic site occupying eight acres of land within Pettigrew State Park. It is administered by the Division of Archives and History of the Department of Cultural Resources.

The Pettigrews

Adjacent to Somerset Place is what was once the Pettigrew family farm, Bonarva. General James Johnston Pettigrew, the Confederate Civil War hero for whom the park is named, and his family left an indelible mark upon the history of the state. General Pettigrew died at an early age from a wound received during General Robert E. Lee's retreat following the battle of Gettysburg. The Pettigrew family cemetery is located in the park.

Water Sports

Fishing

Lake Phelps is an angler's paradise, known throughout the East for its bass fishing. The lake teems with largemouth bass, yellow perch and many species of sunfish, such as bluegill, shellcracker and pumpkinseed. Other gamefish found in the lake include pickerel and catfish. Regulations of the Wildlife Resources Commission apply to fishermen on Lake Phelps.

Boating

Fishing boats share Lake Phelps with a variety of pleasure craft. Canoes, kayaks, rowboats and power vessels all have ample room to enjoy the clear shallow water. Lake Phelps offers ideal conditions for sailing in shallow draft boats. Access to the lake is available at the rear of the park office where two boat ramps with piers offer facilities for launching and docking boats. Caution must be taken as boating conditions on the lake can change rapidly.

Nature Study

An information center near the boat ramps displays Native American dugout canoes and offers interpretive exhibits for your enjoyment.

Flora and Fauna

The mighty trees attract quite a lot of attention. Big trees, many of them state champions, can be found at Pettigrew State Park including: pawpaw, swamp tupelo, green ash, swamp bay, elderberry, hazel alder and sweetleaf. The trunks of baldcypress trees measure up to 10 feet in diameter and poplar trunks exceed six feet. Other species have trunks well over five feet in diameter.

Wildflowers lend color and beauty to the forests of Pettigrew. Those often seen in the park include Atamasco lily, Jack-in-the-pulpit, jewelweed, buttercup, mist flower and periwinkle.

A great place for birdwatching, Lake Phelps and its adjoining woodlands are a primary wintering ground for ducks, geese and swans. December is the best month to view such migrating birds as the tundra swan, Canada goose and a variety of ducks. Other birds such as osprey, owls and hawks make their homes in Pettigrew's giant trees, while the lakeshore provides a habitat for kingfishers, herons, egrets and a host of other avians who seek food at the water's edge. Catch a glimpse of black bear or white-tailed deer or spot opossum, fox, bobcat, raccoon, mink and muskrat.

Program Options

Abounding with natural history, Pettigrew State Park is an excellent place to teach ecology, environmental issues, biology, conservation

and earth science, as well as to enjoy recreation. The area is rich with cultural resources and provides a wonderful outdoor classroom for learning about Eastern North Carolina.

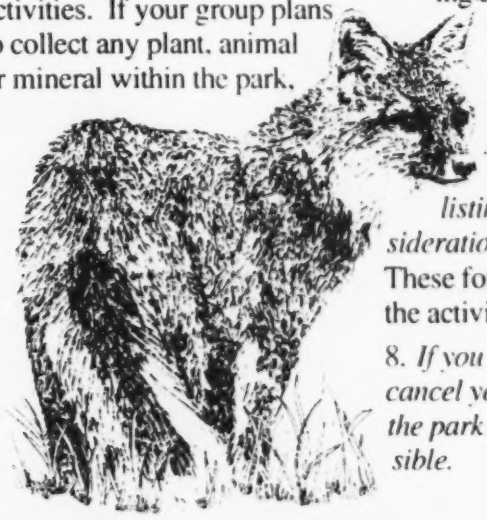
Groups are encouraged to visit the park during all seasons of the year for hikes, exploration, nature study and other activities. Leaders may choose to design and conduct their own activities or to use the Environmental Education Activity Packet, "The Secrets of Lake Phelps." Park staff will be happy to assist you with your programming needs. They will make every effort to accommodate persons with disabilities.

Scheduling a Trip:

1. Please contact the park at least two weeks in advance to make a reservation.

2. Complete the scheduling worksheet provided at the back of the activity packet on page 9.1.

3. Research activity permits may be required for sampling activities. If your group plans to collect any plant, animal or mineral within the park, please contact the park office at least 30 days in advance to obtain a permit application.



Before you make the Trip:

1. Complete the pre-visit activity in the Environmental Education Activity Packet.

2. Visit the park without the participants prior to the group trip. This will allow you to become familiar with facilities and park staff and to identify any potential problems.

3. Group coordinators should discuss park rules and behavior expectations with adult leaders and participants. Safety should be stressed.

4. Inform the group about the possibility of encountering poison ivy, ticks, snakes and insects. Discuss the need to use insect repellent from late spring through early fall.

5. Everyone should wear a name tag. Please color-code tags (for groups) and establish a buddy system.

6. Encourage everyone to wear appropriate, comfortable clothing and walking shoes.

7. *Group leaders are responsible for obtaining a consent form from each participant including a listing of any health considerations and medical needs.* These forms are available in the activity packet on page 9.2.

8. *If you will be late or need to cancel your trip, please notify the park as far ahead as possible.*

While at the Park:

Please obey the following rules:

1. To help you get the most out of the experience and increase the chance of observing wildlife, be as quiet as possible while in the park.

2. On hikes, walk behind the leader at all times. Stay on the trails. Running is not permitted.

3. All plants and animals within the park are protected. Breaking plants and harming animals are prohibited in all state parks. This allows future visitors the same opportunity to enjoy our natural resources.

4. Picnic in designated picnic areas only. Help keep the park clean and natural; do not litter.

5. In case of accident or emergency, contact park staff immediately.

Following the Trip:

1. Complete the post-visit activity in the Environmental Education Learning Experience packet.

2. Build upon the field experience and encourage participants to seek answers to questions and problems encountered at the park.

3. Relate the experience to classroom activities and curriculum through reports, projects, demonstrations, displays and presentations.

Introduction to the Activity Packet for Pettigrew State Park

The Environmental Education Learning Experience, "Secrets of Lake Phelps," was developed to provide hands-on environmental education activities for the classroom and the outdoor setting of Pettigrew State Park. This activity packet, designed to be implemented in grades 5 through 7, meets established curriculum objectives of the North Carolina Department of Public Instruction. Three types of activities are included:

- Pre-visit activity
- On-site activity
- Post-visit activity

The on-site activity will be conducted at the park, while pre-visit and post-visit activities are designed for the classroom. The pre-visit activity should be introduced prior to the park visit so that students will have the necessary background and vocabulary for the on-site activity. We encourage you to use the post-visit activity to reinforce concepts, skills and vocabulary learned in the pre-visit and on-site activities. These activities may be performed independently or in a series to build upon the students' newly gained knowledge and experiences.

The Environmental Education Learning Experience, "Secrets of Lake Phelps," will expose the student to the following major concepts:

- **Archaeology**
- **Carolina Algonkian Indians**
- **Preservation of cultural resources**
- **Research methods**
- **Protection**

The first time a vocabulary word is used in these activities it is indicated in **bold** type. Definitions are listed in the vocabulary section. A list of the reference materials used in developing the activities follows the vocabulary list.

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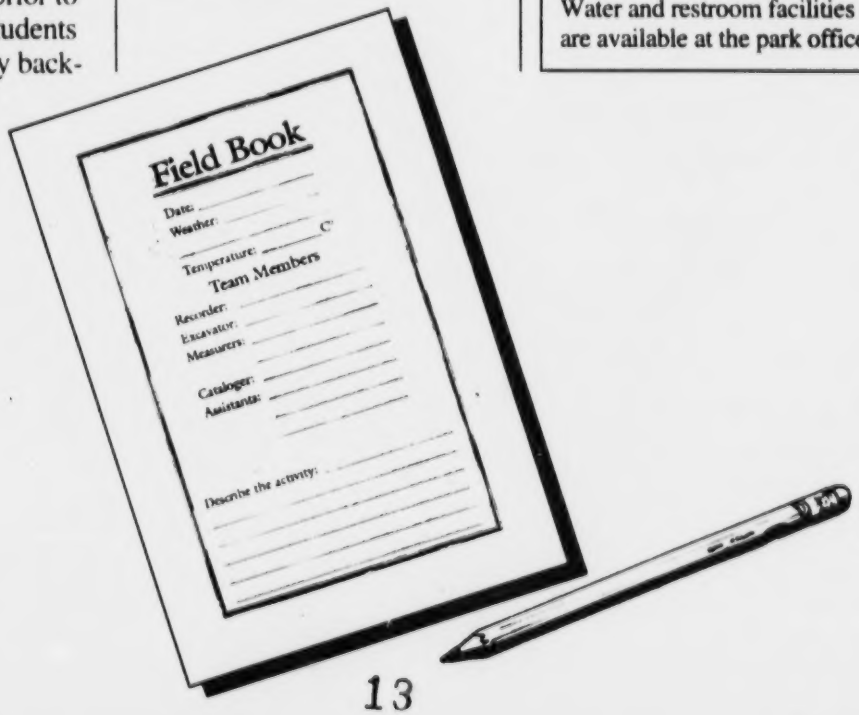
NOTE: Students will be required to hike to the on-site activity location. Poison ivy and insects may be encountered on the trail. Students should wear appropriate clothing and shoes which cover their feet. Water and restroom facilities are available at the park office.



4. Give tests or evaluations, if appropriate, to determine if students have gained the desired information from the experience.

5. File a written evaluation of the experience with the park. Evaluation forms are available in the activity packet on page 9.3.

Park Information:

Address:

Pettigrew State Park
Route 1, Box 336
Creswell, NC 27928
Phone 919-797-4475

Hours of Operation:

Nov - Feb	8:00 a.m.- 6:00 p.m.
Mar, Oct	8:00 a.m.- 7:00 p.m.
Apr,May,Sep	8:00 a.m.- 8:00 p.m.
Jun - Aug	8:00 a.m.- 9:00 p.m.

Other Educational Options in the area:

Address:

Somerset Place State
Historic Site
P.O. Box 337
Creswell, NC 27928
Tel: 919-797-4560

Pocosin Lakes National
Wildlife Refuge
Route 1, Box 195-B
Creswell, NC 27928
Tel: 919-797-4431

Introduction to the Native Americans of Eastern North Carolina

When "discovered" by European colonists in the 16th century, the region that would become the Carolinas was not an empty wilderness. Previous colonists had long since established a thriving, complex society in the region. These first colonists were the ancestors of the **Native Americans** who greeted Hernando de Soto's Spanish expedition in the 1540's and the Roanoke colonists in later decades. The Roanoke colonists, on the coast, encountered natives of the **Algonkian** culture, a large grouping of tribes that occupied the entire mid-Atlantic region. De Soto, while exploring the interior, met Native Americans who spoke different languages, now recognized as being Catawba, Cherokee and Creek.

Pettigrew State Park, NC

These Native Americans, with their diverse languages and traditions, nonetheless shared a common **culture** which **archaeologists** call the **Woodland culture**. This culture is recognized primarily by the bow and arrow, the use of **pottery** and the development of an agricultural economy.

The Woodland culture did not, however, include the development of any written language. What little we know about the historic native inhabitants of the Carolinas comes to us from colonial records. Thomas Harriot's writings and John White's paintings from the early years of the European colonization provide us with detailed accounts of Carolina Native Americans. Most other early colonial accounts only mention Native Americans in passing while documenting the exploration of the new land, the search for treasures and the establishment of the colonies.

The later colonial period is equally sketchy in its accounts of the native populations. Only the most general information can be gathered from official records of the time, despite the influence Native Americans had on the colonial economy, particularly in the lucrative deerskin trade. Unofficial writings by John Lederer, William Bartram and John Lawson give us insights into the native cultures as they declined which are comparable to the accounts of White and Harriot.

By the nineteenth century, the greatest part of the native cultures was lost forever. We have retained only scant, incomplete information about the Native Americans of Carolina from the historic period. What, then, can we know about the **prehistoric** ancestors of those people, those who lived in the Carolinas before the times of written history? With no written records and their oral traditions lost, how can we learn about these prehistoric populations? What remains of these prehistoric populations can only be learned through the painstaking work of archaeologists.

Archaeology is the study of past cultures through the systematic recovery and analysis of what that culture has left behind, such as buildings, tools and pottery. Unfortunately, many aspects of a culture, such as language (not to mention dialect), accurate tribal names

and social or political organization leave no evidence which archaeologists can find and such details can never be recovered.

Paradoxically, this is what makes **archaeological artifacts** all the more important and valuable. Artifacts don't need to be great lost treasures. Archaeologists can tell us a lot about how and where people lived by examining the most common objects. By comparing artifacts left by prehistoric Carolina natives to what is known about other prehistoric Native Americans, archaeologists have developed a surprisingly clear picture of the ancestors of the Carolinas' historic native populations.

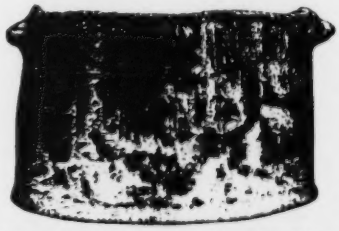
Paleo-Indian Culture

The earliest inhabitants of North Carolina, known as **Paleo-Indians**, probably arrived about 11,000 years ago, just a few generations after their predecessors crossed into North America from Siberia at the end of the Pleistocene era, the last ice age. Remarkably similar artifacts found across the American continents, particularly **projectile points**, suggest that the Paleo-Indians rapidly spread out across the ice-free regions of the New World. Though the great ice sheets did not reach North Carolina, the climate here was affected by the glaciers, staying cooler and wetter than today. Paleo-Indians were hunter/gatherers who used group hunting techniques against animals like prehistoric elephants (mammoths and mastodons), giant ground sloths, wild horses, camels and giant bison. These animals all became extinct in America with the end of the ice age. Other animals they hunted include moose, caribou, elk and porcupine. These animals, once common to North Carolina, retreated to cooler climates as the ice caps shrank.

Palmer point
10000-8000 BC

Archaic Culture

The Paleo-Indian culture was succeeded at the start of the Holocene era, about 9,000 B.C., by the **Archaic** culture. The Archaic period, from around 9,000 B.C. to 2,000 B.C., was notably different from the preceding era. The ice sheets were gone, the animals were different, the forests were changed. Cultural changes occurred to deal with these environmental differences.



Croaker Landing Plain Vessel
1700-1000 BC

Archaic Indians produced a wide variety of tools and weapons of stone, wood and bone, as well as basketry. Archaic sites have been found in all areas of North Carolina, from the coastal estuaries to the mountains. Evidence from these sites indicates that the Archaic Indians remained hunter/gatherers, living in small, often temporary camps and villages. Gradually, toward the end of the Archaic period, limited agriculture, the making of pottery and the invention of the bow and arrow transformed the Archaic culture into the Woodland culture.

Woodland Culture

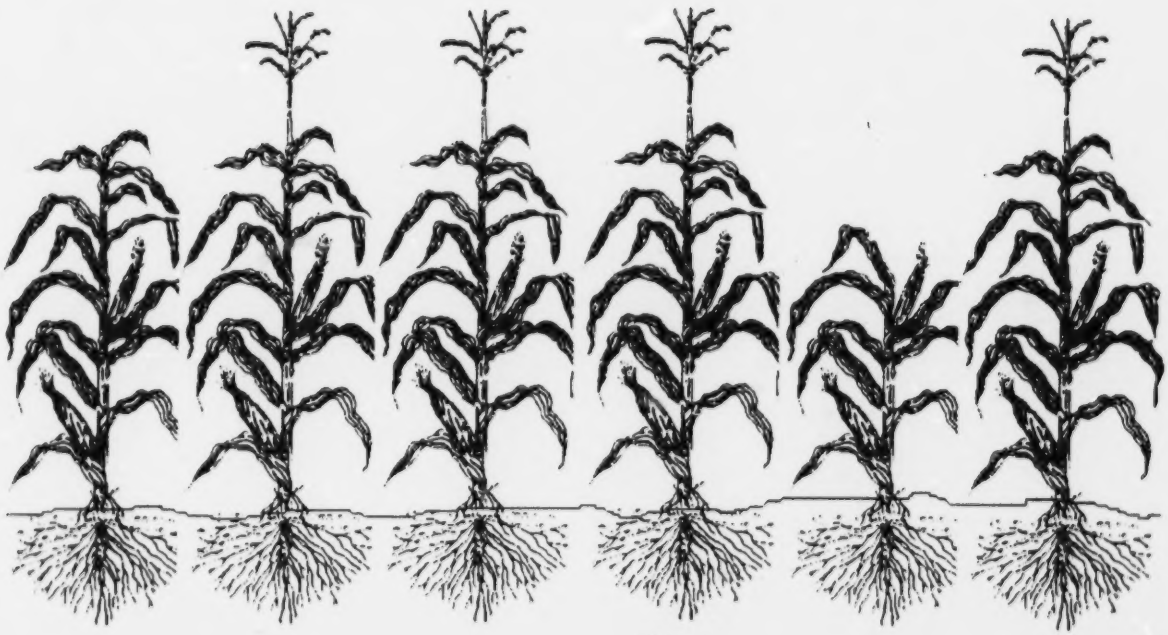
The transition from Archaic to Woodland culture is not clearly defined in any archaeological site. There are many questions about how and when the changes occurred. Did the development of pottery occur only after the Archaic Indians settled into stable villages, encouraging the use of the fragile pots? Or did the agricultural villages develop only after the invention of pottery provided safe storage of large harvests? When was the bow invented?

Fabric Impressed Dipper
AD 800-1650

As the Woodland culture developed, certain changes became apparent. Though Woodland sites have been found in all regions, the tendency was for villages to be larger and established along stream valleys suitable for

agriculture. The Woodland I ndians still used the hunter/ gatherer techniques of their ancestors, but archaeological evidence of larger houses, village defensive walls and storage facilities, indicates they were strongly committed to village life. In fact, studies of the distribution of artifacts and pottery styles seem to indicate that during the Woodland period territorial boundaries began to develop between groups or nations. Archaeologists theorize those boundaries may reflect the early language divisions between what became the Siouan, Iroquoian and Algonkian societies in the region.

This Woodland culture was dominant when the European colonists arrived in North Carolina. Most Native Americans were living in small, semi-permanent villages with a well established agricultural economy, growing maize, tobacco, beans and squash, and hunting individually, or in small groups, for deer, turkey and fish. It is this culture which early colonists documented, however imperfectly. And it is this culture which provides the window through which archaeologists look to see more clearly into the prehistory of North Carolina's Native Americans.



Activity Summary

The following outline provides a brief summary of each activity, the major concepts introduced and the objectives met by completion of the activity.

I. Pre-Visit Activity

#1 Trip to Lake Phelps (page 3.1.1)

Working in groups, students will read a story introducing them to vocabulary and concepts used in the activities. Students will then complete a fill-in-the-blank worksheet.

Major Concepts:

- Archaeology
- Carolina Algonkians
- Preservation of cultural resources
- Research

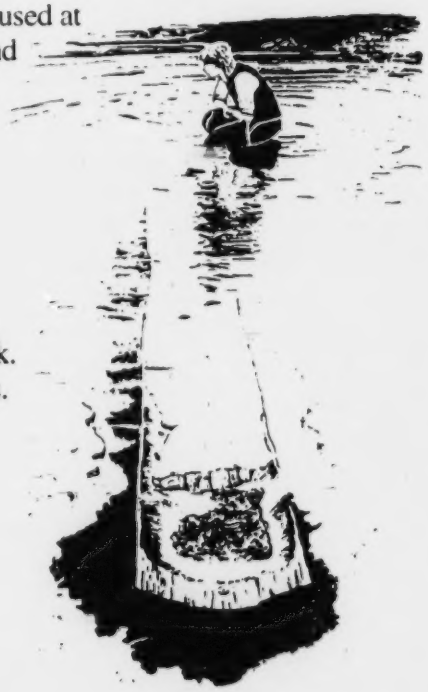
Objectives:

- Define archaeology.
- List two examples of archaeological artifacts found at Pettigrew State Park.
- Define cultural and natural resources.
- Define hypothesis.
- Explain why it is important to study and protect natural and cultural resources.

II. On-Site Activity

#1 Archaeology at Lake Phelps (page 4.1.1)

Students will experience hands-on methods of archaeology used at Lake Phelps. Students will systematically catalog their finds and make assumptions or field identifications of their finds.



Major Concepts:

- Archaeological survey
- Protection
- Research methods

Objectives:

- Perform a systematic search of an archaeological site.
- Collect, classify and catalog each artifact in a field book.
- Explain the importance of accurate research techniques.
- Discuss the importance of protecting a research site.

III. Post-Visit Activity

Puzzle Pieces (page 5.1.1)

Students will write a report describing their simulated archaeological research at Lake Phelps. Included will be site description, survey techniques, purpose, artifact inventory, analysis and conclusion. Students will identify artifacts using a cultural sequence chart and a reference guide. Students will also note environmental changes during periods represented on the chart.

Major Concepts:

- Archaeology
- Research

Objectives:

- Write a research report including purpose, analysis and conclusions.
- Explain why one does research.
- Relate three artifacts to each other and the period and phase they represent.
- Describe how to use the time line found on a cultural sequence chart.

Pre-Visit Activity #1 — A Trip to Lake Phelps

Curriculum Objectives:

Grade 5
- Communication Skills: listening, reading, vocabulary and viewing comprehension
- Guidance: competency for interacting with others
- Social Science: gather, organize and analyze information, draw conclusions, participate effectively in groups

Grade 6
- Communication Skills: listening, reading, vocabulary and viewing comprehension
- Guidance: competency and skill for interacting with others, variety and complexity of occupations
- Science: how science helps us
- Social Studies: gather, organize and analyze information, draw conclusions

Grade 7
- Communication Skills: listening, reading, vocabulary and viewing comprehension
- Guidance: being responsible in a group
- Science: science and its relationship to human endeavor, interaction of people and the environment
- Social Studies: know the importance of natural resources, gather, organize and analyze information, draw conclusions

Location: Classroom

Group Size: 30 or smaller

Estimated Time:
45 to 60 minutes

Appropriate Season: Any

Materials:
Provided by the educator:
Per group - "The Secrets of Lake Phelps" story
Per student - "The Secrets of Lake Phelps" worksheet, pencil

Major Concepts:

- Archaeology
- Carolina Algonkians
- Preservation of cultural resources
- Research

Objectives:

- Define archaeology.
- List two examples of archaeological artifacts found at Pettigrew State Park.
- Define cultural and natural resources.
- Define hypothesis.
- Explain why it is important to study and protect natural and cultural resources.

Educator's Information

This activity is designed to provide the students with the background information they will need for the on-site activity. For more information on archaeology and Carolina Algonkians, read the Introduction to the Native Americans of Eastern North Carolina, on page 1.7.

Instructions:

Divide the class into six groups. Have each group read the story and then complete the worksheet. Review the answers as a classroom discussion.

Suggested Extensions:

1. Complete the application and permit for recovering artifacts prior to visiting the park. This gives the students an understanding of the process of applying for an actual permit.
2. Find out more about carbon 14 dating.

A Trip to Lake Phelps

It seemed funny seeing the sun still so low in the east on a Saturday morning. Bonnie and her brother Doug had gotten up at six o'clock. They usually slept late on days when they were not going to school, but today was special. Their parents had promised to take them to Pettigrew State Park for a day of fishing in Lake Phelps. It was May, almost summer, and in Bonnie's mind there was no better place for an early taste of summer than the lake.

The trip to Pettigrew State Park seemed to take forever. Doug was anxious to get on the lake so he could catch a big bass. They arrived just as the ranger was opening the gate.

"It's going to be a good day for fishing," their dad said as he drove to the boat ramp. He stopped to let his passengers out and unload the car before backing the trailer into the water.

Doug and Bonnie scrambled out of the car. They had visited Pettigrew State Park only once before, and that was two years ago. Both of them were excited about the fishing trip. On their previous trip they had caught lots of fish and had spent time at a place called "Big Point." That was an area where there was a sand bar that went out a long way into the lake. The water was crystal-clear and only three feet deep.

Bonnie and Doug started getting the gear out of the car. Doug got the tackle boxes and the fishing poles while Bonnie got the life jackets and the picnic lunch. They piled the gear against two signs at the end of the dock. While Bonnie and Doug were waiting for their parents to launch the boat, Bonnie read the signs. The first sign was a welcome sign.

Welcome...

North Carolina State Park

Help preserve our natural resources by observing the following:

- **Fires are permitted in designated areas only.**
- **The destruction, damage or removal of any plant, rock or mineral is prohibited.**
- **It is unlawful to possess firearms or lethal weapons.**
- **Our State Parks are wildlife preserves. Hunting is prohibited. Wildlife Resources Commission regulations apply for fishing.**
- **Alcoholic beverages are prohibited.**
- **Pets must be on a leash no longer than 6 feet.**
- **Camping is permitted in designated areas only.**

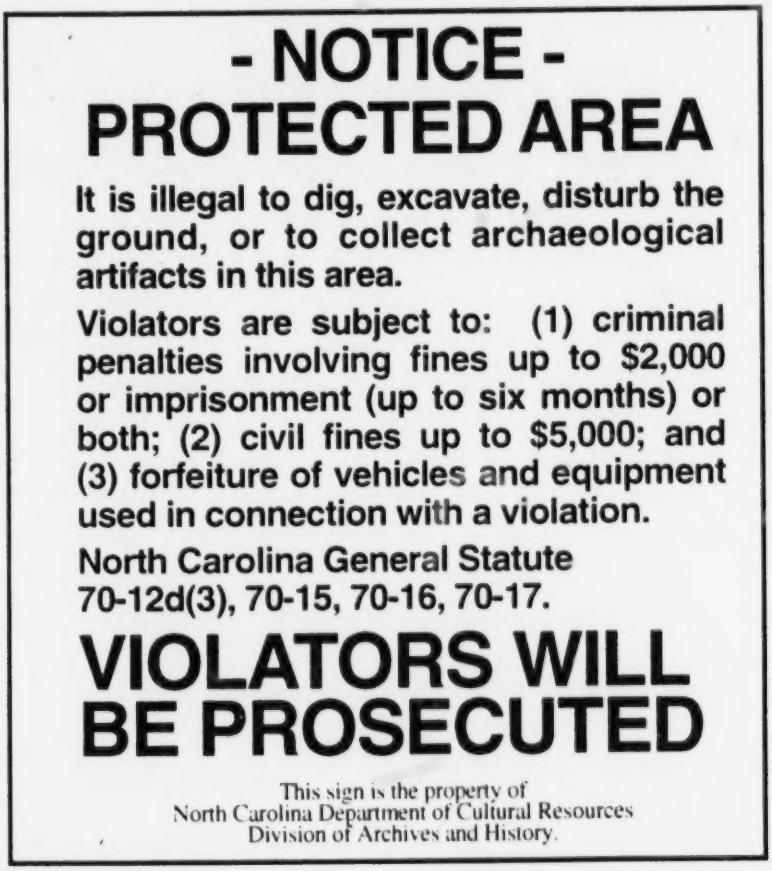
Pursuant to N. C. General Statutes 113-34 and 113-35, all park rules are codified in Title 15, Chapter 12 of the North Carolina Administrative Code. Violators of any park or recreation area rule are subject to arrest and a fine of $50, or imprisonment up to 30 days. Complete copies of parks rules are posted at the park office and at the courthouse of the county or counties in which this park is located.

For information or assistance contact a park ranger or write:

Dept. of Natural Resources and Community Development
Division of Parks and Recreation
P.O. Box 27687
Raleigh, N. C. 27611-7687

Have a safe and enjoyable visit.

BEST COPY AVAILABLE



The second sigh was a notice.

Bonnie knew about state parks from the time a park ranger visited her school. She remembered the ranger saying that the state parks belonged to all the people of North Carolina and their visitors.

The ranger told her class the purpose of the state parks system is to "preserve and protect **natural areas** of unique or exceptional scenic value, not only for the inspiration and benefit of the present generations but also for generations to come," and to "provide recreational use of **natural resources** and outdoor recreation in natural surroundings." The ranger also said that a big part of the job was to interpret plant and animal life, geology and all other natural features and processes included in the parks. Bonnie wasn't sure exactly what the ranger meant by "interpret." Talk about them, she guessed. The ranger also talked about preserving and protecting scientific sites of statewide importance. She had not heard about a "**Protected Area**" and wondered what "**archaeological artifacts**" and "**cultural resources**" were. She asked her mom.

"The **Division of Archives and History** along with **Division of Parks and Recreation** is responsible for preserving the cultural resources of the state," her mom said. The Division of Parks and Recreation is also responsible for preserving the natural resources. You know what natural resources are, right?"

"Sure," said Bonnie. "Natural resources are like the lake, trees, flowers, animals – all the things that are found in nature. We learned all about that in science."

"Well, cultural resources are all those things that are found in a culture, that make up the way people live. Things like how the families live, their religion, music, what food they eat, the things they make," her mom said. "Archaeological **artifacts** are objects made or used by a past culture that tell us what that culture was like."

Just then the park ranger came driving up to the information building near the boat ramp. Bonnie asked her mom if she could ask the park ranger about the archaeological artifacts at Lake Phelps. "Of course," her mom said, "that's what she's here for. See if Doug wants to go with you while your father and I get the boat ready."

Bonnie and Doug approached the park ranger.

"How can I help you?" She asked with a smile.

"I want to find out about that sign," Bonnie said, pointing to the dock. "I thought this place was just for fishing."

"It is used for fishing, and has been for thousands of

years. **Native Americans** used this lake, and we've found some important archaeological sites that need to be protected. The sign was put up here because Lake Phelps is protected by both the Division of Parks and Recreation and the Division of Archives and History as an important **archaeological resource**. That means there are material remains of past human life here which are at least 50 years old and are of archaeological interest."

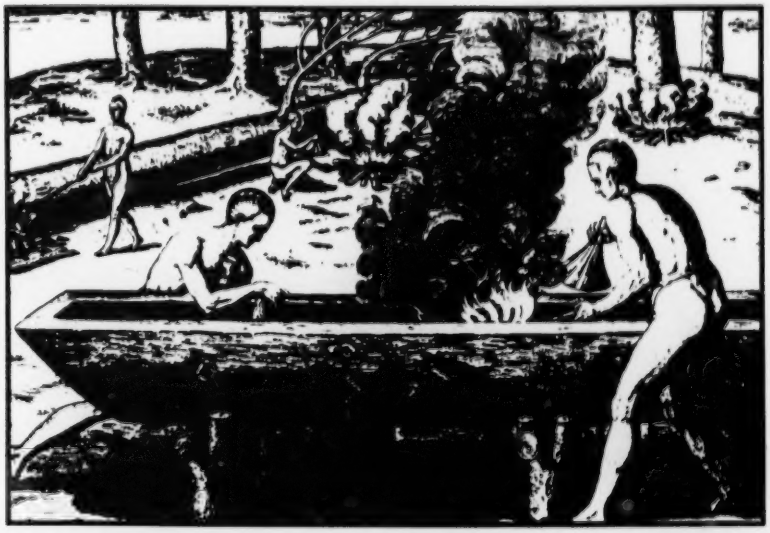
"You mean we could find old stuff here?" asked Doug.

"That's why it's protected; so that only people who are supposed to can find the "old stuff," responded the ranger. Since Lake Phelps is part of Pettigrew State Park, it is state land. To collect artifacts on state land, an **archaeologist**, a person who studies past cultures, must first apply for permits with the Department of Cultural Resources and the Division of Parks and Recreation."

"If you're interested, we have some things in the information building that you can look at."

With their parents permission, Doug and Bonnie went into the building. There they saw two long pieces of old wood inside display cases. The ranger explained that the Native Americans of the area used to come to Lake Phelps to fish. They were at Lake Phelps perhaps as long as 11,000 years ago. They used **baldcypress** trees to make dugout canoes. The ranger pointed to a drawing on the wall.

"This drawing shows how the **Carolina Algonkians** used a small fire at the base of the tree to burn it down, split the log, then burn and scrape the interior of the canoe until the desired shape and size was obtained. These two pieces of old wood are really canoes which were preserved by the acidic water and burial in the lake bottom sediments. There have been 30 canoes found, and 23 of them have been measured and studied. The oldest canoe found so far is over 4,380 years old," the ranger explained.



"Cool!" said Bonnie. "How do you know how old the canoes are?"

"Have you ever heard of **radiocarbon dating**?" the ranger asked.

The kids shook their heads.

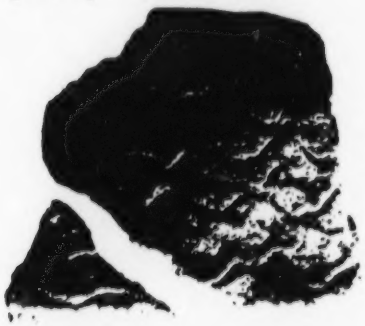
"**Carbon 14** is a product of natural radiation," she explained. "It's absorbed into the tissues and bones of all living things. When they die the Carbon 14 is no longer absorbed and it begins to decay at a slow rate. By measuring the amount of Carbon 14 left in things that were once living, scientists can determine how long they have been dead. In this case, we took a sample of the wood from the canoe and sent it to a special lab for radiocarbon dating. Scientists at the lab determined when the tree died and that told us approximately when the canoe was made."

"How'd you find the canoes, after they'd been under the lake for so long?" Asked Bonnie.

"The canoes were found along the northern and western shores near Big Point. In the summer of 1984, water was pumped from Lake Phelps to fight a big forest fire on the

south shore of the lake. Dry weather during the rest of that year and in following years kept the lake level below normal until the spring of 1993. In the fall of 1984, fishermen began to report seeing artifacts on the lake bottom. You know how shallow and crystal-clear the water is. Some of these artifacts included partial and whole clay pots and stone objects. The first dugout canoe was discovered by park employees in 1985. That discovery, along with the unusually well preserved artifacts, brought attention to the archaeological resources at Lake Phelps. A research project started, with the goal of understanding the secrets of Lake Phelps' past cultures.

"What secrets could be learned from a piece of **pottery**?" Bonnie asked.



Pettigrew Variety Potsherd
1,700-1,000 B.C.

The ranger smiled and said, "A piece of pottery, or a **potsherd**, can tell lots of secrets. Archaeologists can tell when the pot was made from the style of pot, the material used to make it and whether it was tempered or not."

"Whether it was what?" asked Doug.

"Tempered," repeated the ranger. "That means something was added to the clay." She pointed to a pot in the display case.

Colington Pot AD
800-1650

"This type of pot here was made starting in A.D. 800 and is called **Colington Phase**. It was tempered with pieces of shell. Other pots were tempered with pieces of **soapstone**."

"There is even a type of pottery called the "Pettigrew Variety" of the Croaker Landing phase because of the unusual decorations with wavy lines on the surface. The decorations on the outside of the pot are known as surface finishing. This style has only been found at Lake Phelps."

"Even stone objects such as spear points or arrowheads tell the secrets of their age by the many different types, sizes and shapes in which they are found. Each **projectile point** can be dated to a particular time period by its characteristics."

"What's a projectile point?" asked Bonnie.

"I know, that's arrowheads, right?" said Doug.

"You're right, but not just arrowheads. Bows and arrows are actually pretty recent inventions. The evidence of the earliest human presence at Lake Phelps consists of two small spear points of the Palmer type, dated to 8,000 - 9,000 B.C.

"But rocks and clay pots were never alive," objected Doug. "How can you date them?"

"Ask them out to a movie," suggested Bonnie.

The ranger laughed.

"That's a good question. By doing radiocarbon testing they can find out how old organic artifacts are that were found at the same place. Then, by cataloging every style of pot or projectile point, they can compare new finds with what they already know, make an accurate estimate."

"Most projectile points, pots and canoes found at Lake Phelps were made between 300 B.C. and A.D. 800 That's more than at any other **prehistoric time**. Prehistoric time is time before written language. Why do you think more artifacts would be found from this time period?"

Bonnie thought for a minute and then said, "There must have been more people here

then. That would mean that they would need more pots to cook in and more projectile points to hunt and fish with."

"You just made a very good **hypothesis**," the ranger said.

"What's an hypothesis?" Doug asked.

"Well," the ranger said, "we know from the archeological research that more artifacts from that time period were found than from any other time. What Bonnie did was take that fact a step further and come up with the idea that there must have been more people here then than during any other time. That is called an hypothesis. It's an explanation that accounts for a set of facts that can be tested by further investigation."

"And she's right. Archaeological research indicates that around A.D. 800 the people in the area started to farm more efficiently. As they became better farmers, they could produce more food, so it can be hypothesized that they did not need to travel to Lake Phelps as often for fishing. This would explain why fewer artifacts have been found which were made after A.D. 800."

"The Carolina Algonkians who visited Lake Phelps, and perhaps set up seasonal camps on the north-west shore of the lake, were most likely members of the **Moratoc society**. Their territory included the south side of the Albemarle Sound from the Scuppernong River to the mouth of the Roanoke River. The maps of the early **Algonkian** settlements by John White provide historic information about the settlement patterns of the Native Americans along the coast of North Carolina. These settlements were located in a lot of the same places where villages and towns can be found today."

"Hey, guys, ready to go?" Their dad stuck his head in the door.

"Dad! You should look at this stuff. It's really cool!" Doug said.

"Tell me all about it out on the lake," said dad. Maybe we can come back and look at it later. The fish are waiting for us."

Bonnie and Doug regretfully pulled themselves away from the displays. Bonnie was fascinated by what she had learned about archaeology and about the people who first fished at Lake Phelps. Even Doug, who lived for fishing, was disappointed when his father called them out to the boat. They wanted to learn more about the secrets of Lake Phelps.

As their boat pulled away from the dock, Bonnie could just imagine the people in their dugout canoes fishing in the same crystal-clear water. She wondered what it would be like to spend the day on the lake with the Moratoc people...

A Trip to Lake Phelps Worksheet

Instructions: After reading the story, complete this worksheet.

1) Things that represent the customary beliefs, social systems and material traits of a group of people are called _____ _____. The Division of _____ and _____ is responsible for preserving these.

2) Objects made by humans from past cultures are _____ _____.

3) Trees, water, wild plants and animals are examples of _____ _____. Examples used to make pots by Native Americans are clay, soapstone and shells.

4) The trees used by Native Americans to make the dugout canoes at Lake Phelps are _____.

5) _____ _____ is the method of determining the absolute age of something that was once living. The oldest canoe found so far at Lake Phelps is approximately 4,380 years old.

6) An _____ is a scientist who studies past cultures.

7) _____ _____ is time before written language.

8) An explanation that accounts for a set of facts and that can be tested by further investigation is called an _____.

9) If you were an archaeologist applying for a permit to collect or research artifacts on state land you would contact the Department of _____ _____.

10) _____ _____ is the name for the type of pottery found at Lake Phelps with shells added to the clay. This type of pottery was made around A.D 800.

11) A _____ is another name for a piece of pottery.

12) A Palmer type _____ _____ represents the earliest human presence at Lake Phelps. This type of point was made between 8000 - 9000 B.C.

13) The Division of _____ and _____ is responsible for the management and protection of Pettigrew State Park.

14) The very last words on the "Welcome to North Carolina State Parks" sign are: Have a _____ and _____ visit!

A Trip to Lake Phelps Worksheet

Instructions: After reading the story, complete this worksheet.

1) Things that represent the customary beliefs, social systems and material traits of a group of people are called cultural resources. The Division of Archives and History (or Parks and Recreation) is responsible for preserving these.

2) Objects made by humans from past cultures are archaeological artifacts.

3) Trees, water, wild plants and animals are examples of natural resources. Examples used to make pots by Native Americans are clay, soapstone and shells.

4) The trees used by Native Americans to make the dugout canoes at Lake Phelps are baldcypress.

5) Radiocarbon dating is the method of determining the absolute age of something that was once living. The oldest canoe found so far at Lake Phelps is approximately 4,380 years old.

6) An archaeologist is a scientist who studies past cultures.

7) Prehistoric time is time before written language.

8) An explanation that accounts for a set of facts and that can be tested by further investigation is called an hypothesis.

9) If you were an archaeologist applying for a permit to collect or research artifacts on state land you would contact the Department of Cultural Resources.

10) Colington phase is the name for the type of pottery found at Lake Phelps with shells added to the clay. This type of pottery was made around A.D 800.

11) A potsherd is another name for a piece of pottery.

12) A Palmer type projectile point represents the earliest human presence at Lake Phelps. This type of point was made between 8000 - 9000 B.C.

13) The Division of Parks and Recreation is responsible for the management and protection of Pettigrew State Park.

14) The very last words on the "Welcome to North Carolina State Parks" sign are: Have a safe and enjoyable visit!

APPLICATION FOR PERMIT

Exploration, Recovery and Salvage of Submerged Cultural Resources

(Prior to completing this form applicant should read "North Carolina General Statute 121, Article 3" and "North Carolina Administrative Code - T07:04R.1000")

Please type or print and fill in all blanks. If information is not applicable, so indicate by placing N/A in blank.

I. Applicant Information

A. Name _____
Last First Middle

B. Address _____
Street, P. O. Box or Route

_____
City or Town State Zip Code Phone

C. Institutional or other affiliation _____

II. Location of Proposed Project

A. County _____

B. City, Town, Community or landmark _____

C. Creek, river, sound, bay or ocean beach in or near which project is located

_____

III. Description of Proposed Project

A. Provide a statement of the purpose and objectives of the project

_____

_____

_____

_____

_____

_____

_____

_____

(attach additional pages if more space is necessary)

B. Provide the schedule for the proposed project including beginning and completion dates of all phases

_____

_____

_____

_____

IV. Project Personnel

A. Project Director: Person responsible for the initiation and successful completion of the proposed project (if same as applicant (I. A.) enter "same")

Name _____
Last First Middle

Address _____
Street, P. O. Box or Route

_____
City or Town State Zip Code Phone

Institution of other affiliation_____

B. Archaeologist: Person responsible for the archaeological supervision of the proposed project (if same as IV. A. enter (same).

Name _____
Last First Middle

Address _____
Street, P. O. Box or Route

_____
City or Town State Zip Code Phone

C. Approximate number of people to be involved in the proposed project _____

V. Disposition of Artifacts

A. Is the objective of the proposed project the salvage of submerged cultural resources for commercial purposes? _____. If yes, provide the name and location of the facility where the salvaged materials will be stored until final disposition as set forth in the required salvage contract.

Name of Facility _____

Address _____
Street, P.O. Box or Route

_____
City or Town State Zip Code Phone

B. Is the objective of the project the recovery of material for archaeological research purposes? _____. If yes, provide the name and location of the facility where recovered materials will be stored, analyzed and conserved.

Name of facility _____

Address _____
Street, P.O. Box or Route

_____
City or Town State Zip Code Phone

VI. Any permit issued pursuant to this application will allow only the activities described in the application. Applicants should therefore describe in the application all anticipated activities.

Applicant's Signature_____ Date _____

Permit Number _____

PERMIT

for

___ Exploration ___ Recovery ___ Salvage

Issued to _____, authorizing this group to participate in the "A Trip to Lake Phelps" in Washington County at Pettigrew State Park. As requested in the permittee's application dated _____.

Signed by the authority
of the Chief of Operations,
NC Division of Parks & Recreation

_____
Chief of Operations

This permit and its conditions
are hereby accepted.

_____
Signature of Permittee

On-Site Activity #1 Archaeology at Lake Phelps

Curriculum Objectives:

Grade 5
- Communication Skills: listening, reading, vocabulary and viewing comprehension, speaking techniques, writing
- Guidance: competency for interacting with others
- Mathematics: solve problems in measurement
- Social Science: gather, organize and analyze information, draw conclusions, use maps, participate effectively in groups

Grade 6
- Communication Skills: listening, reading, vocabulary and viewing comprehension, writing, speaking techniques
- Guidance: competency and skill for interacting with others, variety and complexity of occupations
- Healthful Living: how people affect the environment,
- Mathematics: solve problems in measurement
- Science: how science helps us
- Social Studies: gather, organize and analyze information, draw conclusions, use maps

Grade 7
- Communication Skills: listening, reading, vocabulary and viewing comprehension, speaking techniques
- Guidance: being responsible in a group
- Mathematics: solve problems in measurement
- Science: science and its relationship to human endeavor, interaction of people and the environment,
- Social Studies: know the importance of natural resources, gather, organize and analyze information, draw conclusions

Location:
Lake Phelps program site

Group Size:
30 students, class size

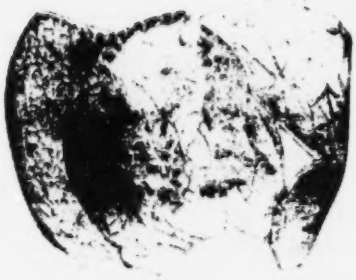
Estimated Time: 1 to 2 hours

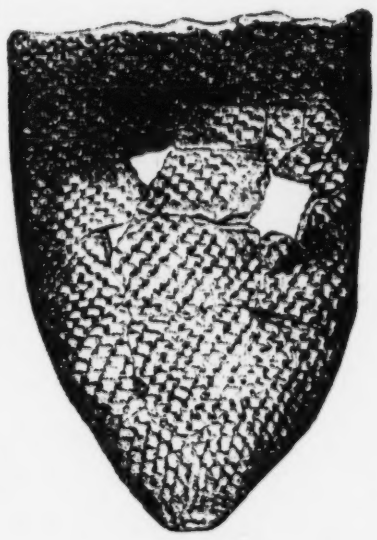
Appropriate Season:
March-August, October

Materials:
Provided by the educator:
Per Group - Field books
Provided by the park: thermometer, 5 metric tapes, nylon cord, brushes, 5 buckets, artifact examples - pottery, projectile points, canoe, gorgets, mystery items, collection bags, pencils, storage boxes

Major Concepts:
- Archaeological survey
- Protection
- Research methods

Objectives:
- Perform a systematic search of an archaeological site.
- Collect, classify and catalog each artifact in a field book.
- Explain the importance of accurate research techniques.
- Discuss the importance of protecting a research site.





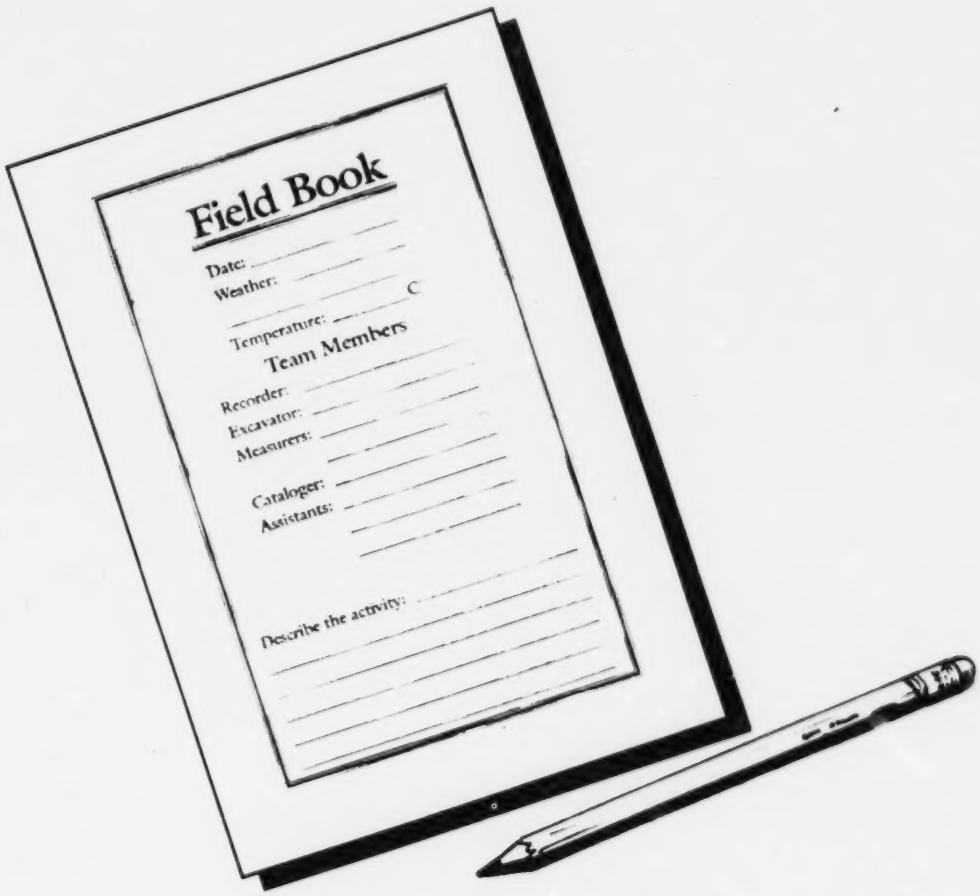
Educator's Information

The purpose of this activity is to introduce the students to the archaeological research methods used at Lake Phelps. This activity will help the students to understand methods of archaeology and should stimulate their thoughts and develop their interests to produce their own hypotheses. It is not necessary for the students to be correct in identifying artifacts.

When performed in water, as at Lake Phelps, archaeology is not as precise as on dry land. Wave and water movement over hundreds to thousands of years cause the sediments to shift. Often, archaeologists perform a surface collection in water. This is what the students will be simulating. The students will do a grid search in a simulated section of the lake. They will collect, record notes, make field identifications (preliminary hypotheses of what is found) and catalog all the artifacts they find. The students will work in groups of five: one student will be "excavating" the artifacts, two students will measure the location of the find using the metric system, one student will record the information in the field book, and one student will clean, catalog and store the finds.

Prior to arriving at the park, divide the class into groups of five. Assign each student the role they will perform while at the "research" site. Recording the data is the most difficult task. Have them list their names on the front of their group's field book.

Park staff will prepare the site prior to the class's arrival. Educators familiar with the activity may choose to prepare the site themselves.



Student's Information:

In the summer of 1984, an extensive forest fire in the vicinity of Lake Phelps was fought with water pumped from the lake, lowering its water level. Dry weather during the remainder of that year and succeeding years kept the lake level down. In the fall of 1984, fishermen began to report seeing **artifacts** on the lake bottom through the shallow, crystal clear water. One year later, in the fall of 1985, the first of a number of dugout canoes was discovered. It was that discovery, along with the unusually well preserved artifacts, that focused attention on the archaeological significance of Lake Phelps. A cooperative research project, with the goal of understanding the secrets of past **cultures** at Lake Phelps, was established by the North Carolina **Division of Parks and Recreation**, North Carolina **Division of Archives and History** and East Carolina University.

Research techniques such as aerial surveys for artifacts, underwater archaeological surveys by divers, surface collections and probing for artifacts were used. Methods had to be specially adapted to the situation, for Lake Phelps is a unique place.

Archaeologists use the standard of measurement scientists around the world use, the **metric system**. Lengths of measurement include millimeters, centimeters and meters. Units of weight include grams and kilograms.

In your research, you must work together as a team. It is important for each of you to remember what your specific job is. If you need help, ask one of your team members first.

Instructions:

1. Lead a brief discussion focusing on past archaeological research at Lake Phelps.

2. Be sure each member of the team understands their respective roles in the activity:

Excavator- finds and carefully "digs out" the artifacts.
Measurers - measure where the artifact is/was located.
Recorder - records all pertinent archaeological information.
Cataloger - properly labels and stores the artifacts, and distributes the necessary equipment:

- excavator - trowel and brush
- measurers - tape measure;
- recorder - pencil and field book
- cataloger - bucket, brush, water, pencil, bags and storage box

3. Give the entire class a walk-through example of the survey. Assign each team a grid, 2 meters by 3 meters, to search in the simulated lake bottom. Have the team fill in the date and weather information on the field book prior to starting.

4. The process should go as follows:

A. The Excavator locates any visible artifacts. The Excavator should uncover but not move the artifacts, being careful not to damage them.

B. The Measurers determine the distance from the baseline and gridline to where the artifacts were found and report these distances to the recorder.

C. The Recorder records these measurements and plots them on the graph in the field book.

D. Next, the Excavator removes each artifact from the lake bottom, brushes away the sediment and dips it in the water bucket for the final cleaning.

E. The Cataloger assigns a serial number to each artifact. The serial number should include the zone and a number. For example, the first artifact found in zone 3 could be Z3-1 (ZONE 3, artifact #1). Finally, the Cataloger should place the dry artifact into a bag and label the bag with the serial number and field identification prior to placing the bag in the storage box.

Note: The whole team should work together to make a field identification of the artifact and make sure the serial number on the bag correlates to what is written in the field book.

F. If the team finds a canoe, they are to excavate around the canoe and measure the canoe only in their zone. The width, length, height and location within the search area should be recorded but the canoe should be left in place.

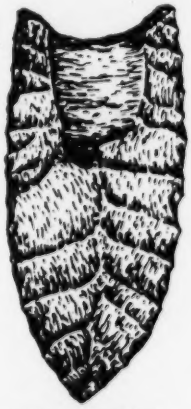
5. Remind them of the importance of protecting the finds and taking accurate information, especially in labeling the artifacts and recording the exact measurements of the locations where artifacts are found.

6. After the research teams have completed their field work have any team(s) which found a canoe cover it over again. Then, gather the whole group together and have them share their findings. Discuss what these findings tell us about Lake Phelps and the cultures that used the lake. Summarize the discussion emphasizing what happens next with these artifacts and field books. Discuss the types of artifacts found, i.e., pottery, wood, stone points, and not found, i.e., baskets, bones, fur. Emphasize the protection of the lake and research site.

7. Carefully transport the artifact storage boxes to the lab (classroom) for further research!

Suggested Extension:

Make copies of the field book for each team member. Have each team member complete the description of the activity, draw all the artifacts in their individual field book and label the measurements of projectile points in millimeters (mm).



Clovis point
12,000-10,000 BC

Artifact Serial #	Distance From:	
	Gridline	Baseline

Descriptions: _____

Field Book

Date: _____

Weather: _____

_____

Temperature: _____C°

Team Members

Recorder: _____

Excavator: _____

Measurers: _____

_____

Cataloger: _____

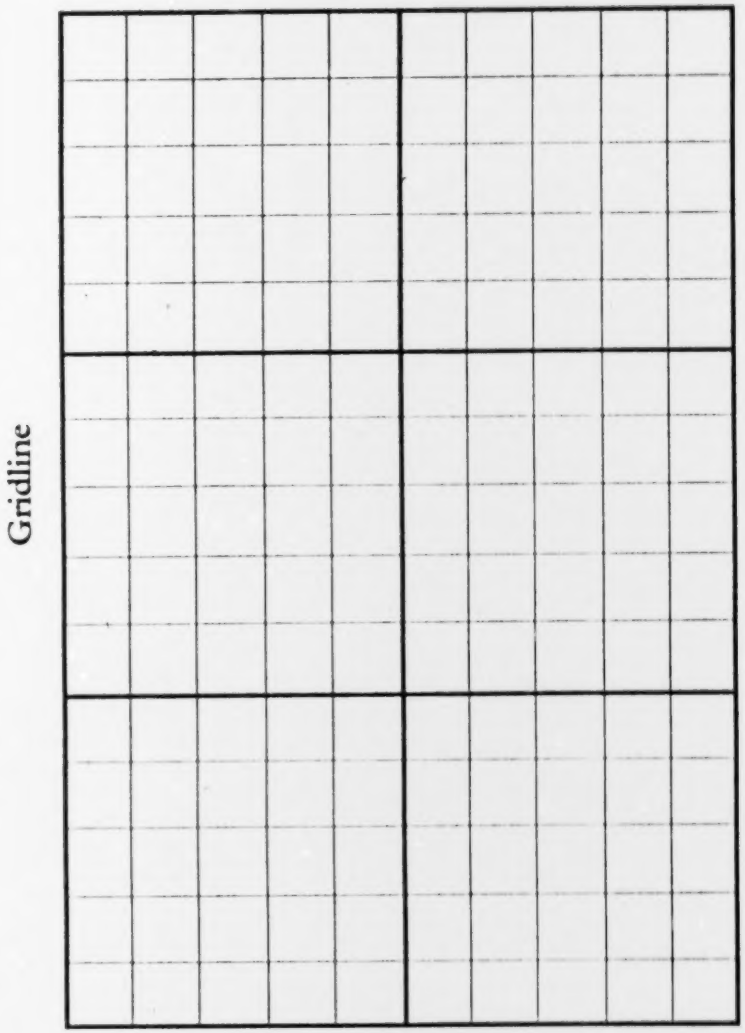
Assistants: _____

_____

_____

Describe the activity: _____

Site Drawing



Fold line

Draw the object found and describe it on the back in the space provided. Label the artifacts using serial numbers.

Artifact Serial #	Distance From:	
	Gridline	Baseline
Z3 - 1	1 m 54 cm	1 m 70 cm
Z3 - 2	52 cm	2 m 50 cm
Z3 - 3	32 cm	70 cm
Z3 - 4	82 cm	1 m 70 cm
Z3 - 5	1 m 27 cm	50 cm

Descriptions: *Z3 - 1 : projectile point*

Z3 - 2 : potsherd, net impressed

Z3 - 3 : stone - smooth surface, unknown identity

Z3 - 4 : potsherd with plain surface

Z3 - 5 : potsherd, cord marked

Field Book

Date: _____

Weather: _____

_____

Temperature: _____ C°

Team Members

Recorder: _____

Excavator: _____

Measurers: _____

_____

Cataloger: _____

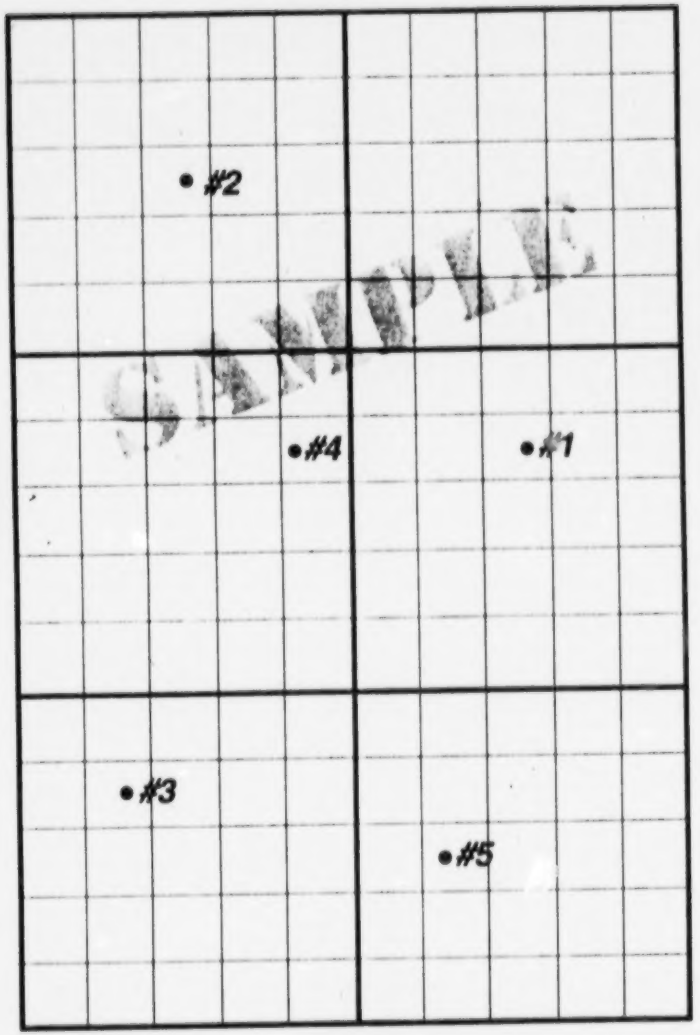
Assistants: _____

_____

_____

Describe the activity: *Surface collection of artifacts at Lake Phelps in Washington County, N.C. / Zone #3*

Site Drawing



Gridline

Baseline

20 cm 40 cm 60 cm 80 cm

0 1 meter

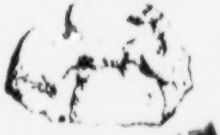
Grid line

Draw the object found and describe it on the back in the space provided. Label the artifacts using serial numbers.

Zone #3

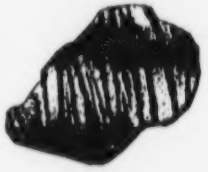
#1 projectile point

#2 potsherd, net impressed



#3 stone - unk[illegible]

#4 potsherd, plain surface



#5 potsherd, cord marked

SAMPLE

February 1994

4.1.8

Pettigrew State Park, NC

Post-Visit Activity #1 — Puzzle Pieces

Curriculum Objectives:
Grade 5
- Communication Skills: listening, reading, vocabulary and viewing comprehension, study skills using environmental sources, speaking techniques, writing
- Guidance: competency for interacting with others
- Library/Media Skills: work independently and creatively in preparing assignments
- Mathematics: solve problems in time and measurement
- Social Science: gather, organize and analyze information, draw conclusions, use maps, participate effectively in groups

Grade 6
- Communication Skills: listening, reading, vocabulary and viewing comprehension, study skills using environmental sources, writing, speaking techniques
- Guidance: competency and skill for interacting with others
- Library/Media Skills: work independently creatively in preparing assignments
- Science: how science helps us
- Social Studies: gather, organize and analyze information, draw conclusions, use maps

Grade 7
- Communication Skills: listening, reading, vocabulary and viewing comprehension, study skills using environmental sources, speaking techniques
- Guidance: being responsible in a group, develop an awareness of alternative points of view
- Science: science and its relationship to human endeavor, interaction of people and the environment
- Social Studies: know the importance of natural resources, gather, organize and analyze information, draw conclusions

Location: Classroom

Group Size:
30 students, class size

Estimated Time: 3 to 4 hours

Appropriate Season: Any

Materials:
Provided by the educator: field books from "Archaeology at Lake Phelps" activity, artifacts
Per five students, to be shared - cultural sequence chart, "Reference Guide to Projectile Points and Ceramic Vessels at Lake Phelps," metric rulers

Major Concepts:
- Archaeology
- Research

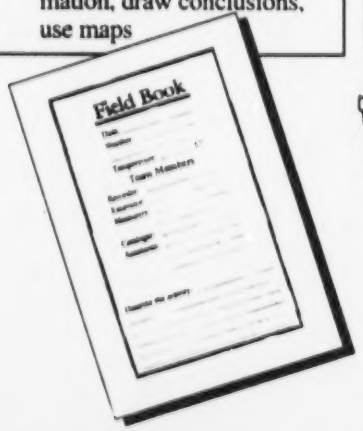
Objectives:
- Write a research report including purpose, analysis and conclusions.
- Explain why one does research.
- Relate three artifacts to each other and the period and phase they represent.
- Describe how to use the time line found on a cultural sequence chart.

Educator's Information

This activity is perhaps the most important part of the archaeological process. Students will share the notes from their field books. The students are to write a report which provides information about all the sites. The report is outlined in the Student's Information. Have the students present and discuss their conclusions with the class. Discuss with the class if the activity was realistic and, if not, what could have been done to make this activity more realistic.

Suggested Extension:

As a class, complete a report on the entire site. Make a site map combining all field book maps.



Student's Information:

When the site survey (the field research at the park) is complete, the next step is to write a report. If you think of the site as a jigsaw puzzle, you can imagine that before the native people left the site the picture was whole, all the pieces were there. The process of time took the pieces apart. At Lake Phelps, the change in the water level as well as the movement of the water currents perhaps moved the **artifacts** around on the lake bottom. For us to understand past **cultures**, we have to look closely at the smaller pieces which have been left. However, it is also important for us not to loose any of the puzzle pieces.

Instructions:

It is now your job to write a report which will put all the pieces back together.

The following outline will help you write a good report. Use the "Cultural Sequence Chart" and "Reference Guide to Projectile Points and Ceramic Vessels at Lake Phelps" (found in the Appendix) to help identify and date the artifacts.

Title:

Author:

I. Site Description.

A. Statement of where the site is located: state, county and place.

B. Acknowledgements.

II. Techniques of Site Survey.

A. Statement of how the survey was done.

III. Purpose of Survey.

A. Statement of why the survey was done.

IV. Artifact Inventory.

A. List what was found.

B. State what periods and phases are represented (determine the % of artifacts found for each phase or period).

V. Analysis of the Facts.

A. Describe when the site was occupied.

B. State who you think occupied the site.

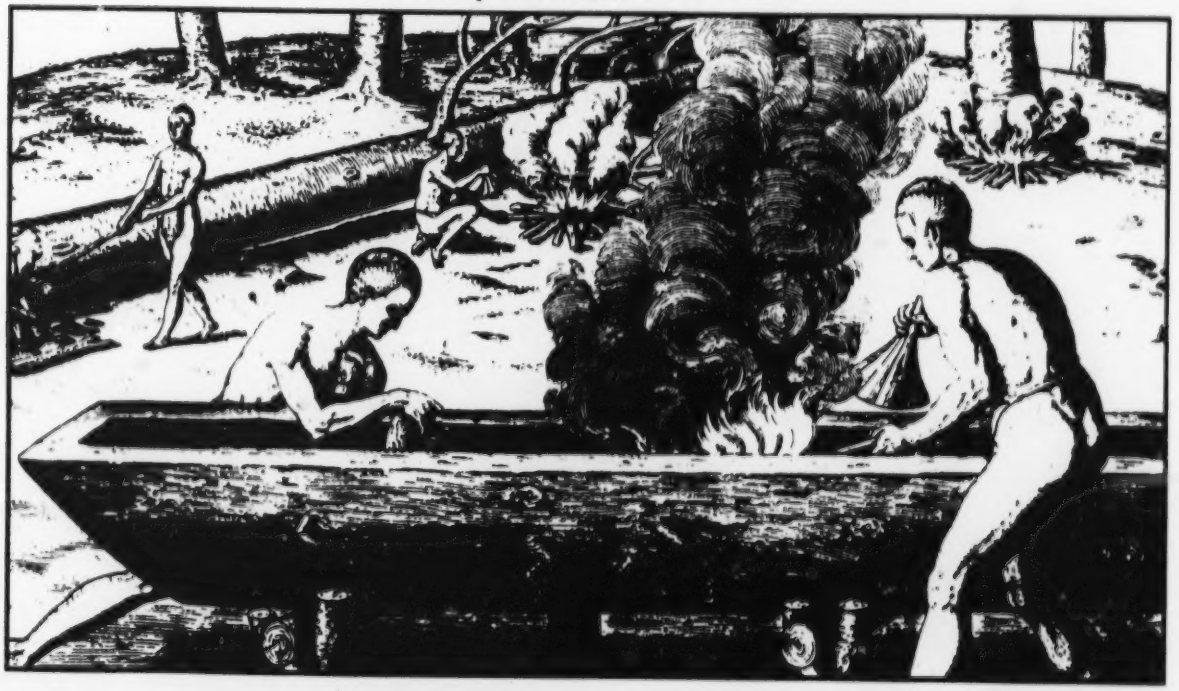
C. What clues were found reflecting upon their daily life?

D. Were there any artifacts that did not fit?

VI. Conclusions.

A. Describe what you learned.

B. What can you hypothesize from what you learned?



BEST COPY AVAILABLE

To Get You Started:

Title: **Lake Phelps Site**

Author: _____

I. The Lake Phelps Site is located near Big Point in Lake Phelps, Washington County, N.C. We would like to thank the Division of Parks and Recreation, East Carolina University's Department of Sociology and Anthropology, and the Division of Archives and History for their assistance in completing this survey.

Zone - 1, 2.... is an area of the lake which is meters ___ by ___ meters. The area was covered with approximately 0.6 meters (60 cm) of water at the time of the survey, however, the level of water in the lake can vary greatly depending upon the amount of rainfall. The lake bottom in the survey area is sand.

II. The survey was completed by doing a controlled surface collection of artifacts from the site area. _____ .

III. The purpose of the project was to collect artifacts to add to our understanding of the prehistory of Lake Phelps. _____ .

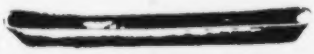
Complete the report using the information from your survey and the outline provided.

IV. Artifact Inventory . . .

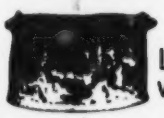
V. Analysis of the Facts . . .

VI. Conclusions . . .

Cultural Sequence of Native

Date	Period	Phase	Projectile Points	Canoes
1984 1715 1650	Historic	Moratoc		
	Late	Colington	Small Roanoke	
800 A.D. B.C. 300	Middle	Mount Pleasant		
	Early	Deep Creek	Large Roanoke	
1000 2000	Late	Croaker Landing Savannah River	Savannah River II Savannah River I	Dugout Canoe
3000	Middle	Morrow Mountain	Halifax Guilford Morrow Mountain I	
5000	Early	Kirk	Kirk Stemmed Kirk Corner Knotched	
8000	Late	Palmer	Palmer	

Americans at Lake Phelps

Vessels	Cultural Changes	Environmental Changes
		Peat Fire - Lowers Lake Level, Artifacts (spanning 10,000 yrs.) Found at Lake Phelps
Colington Colington	Carolina Algonkian	
Gravy Boat Miniature	Agriculture	
Deep Creek	Bow & Arrow Domestic Plants	Forest Types of Today - Cypress, Mixed Deciduous Forest
 Simple Bowl Croaker Landing Plain w/lug handles		
Soapstone Vessel	Atlatl Weight	Colder Temperatures Conifers
	Hunting Fishing Gathering	
	Atlatl	ICE AGE ENDS

VOCABULARY

Algonkian (also Algonquian) - Any of several Native American tribes related by language and culture, inhabiting an area from eastern Canada to the Carolinas between the Atlantic coast and the Rockies.

Anthropology - The study of humanity.

Archaeology - (also archeology) The recovery and study of past cultures using scientific methods.

Archaeological artifact - An object made by humans from a past culture.

Archaeological resource - An area where material remains of past human life, at least 50 years old and of archaeological interest, have been found.

Archaeologist - A scientist who studies past cultures.

Archaic - Belonging to a much earlier time; archaeologically, the Native American cultures which succeeded the Paleo-Indians in the Holocene era, between 9,000 B.C. and 2,000 B.C.

Artifact - See archaeological artifact.

Baldcypress - A tree found in swamps and damp ground whose wood is resistant to decay. Native Americans used the tree's trunk to construct dugout canoes.

Carbon 14 - A naturally radioactive carbon isotope with atomic mass 14 and half-life of 5,700 years, used in dating ancient carbon-containing objects.

Carolina Algonkians - Native Americans of the Algonkian language group that inhabited an area of the North Carolina coastal plain from the Neuse River, north. The culture evolved between A.D. 800 to 1650. (See Algonkian.)

Colington Phase - A style of clay pot made in the Carolinas, tempered with bits of shell.

Culture - The beliefs, social system and material traits of a group.

Cultural resources - Things which represent the customary belief, social system and material traits of a group of people.

Division of Archives and History - The agency of state government, within the Department of Cultural Resources, which protects the cultural resources of the state.

Division of Parks and Recreation - The agency of state government, within the Department of Environment, Health and Natural Resources, which protects the natural and cultural resources of the state found in State Parks and Recreation Areas.

Hypothesis (plural, hypotheses) - An explanation that accounts for a set of facts that can be tested by further investigation.

Metric system - A standard of measurement often used by scientists throughout the world.

Moratoc Society - Carolina Algonkian tribe whose territory included the south side of the Albemarle Sound from the Scuppernong River to the mouth of the Roanoke River.

Native Americans - The original inhabitants of America, preceding the European colonization.

Natural area - A place that has not been developed and exists in its natural state.

Natural resources - Resources, such as trees, water, plants and animals, found in nature.

Paleo-Indians - The earliest aboriginal inhabitants of America who crossed into the New World from Siberia during the latter stages of the Pleistocene era, about 12,000 years ago.

Potsherds - Pottery fragments.

Pottery - Ceramic vessels constructed for cooking, storage of food and water; works of art crafted from clay.

Prehistoric - From a time before recorded history.

Projectile point - A stone or other hard object crafted into a sharp tool used as a tip on an arrow or spear.

Protected area - An area of cultural or natural significance which is managed to prolong its existence.

Radiocarbon dating - A method of dating objects of organic origin which is based on the measurement of the radioactive decay of carbon in organic materials.

Soapstone - Material most often used by early Native Americans to construct cooking vessels and objects until approximately 1500 B.C. when it was replaced by pottery during the archaic period.

Tempering - The process of adding materials added to the clay when a pot is made. Commonly used materials were shells, soapstone, small pebbles and chunks of clay.

Woodland culture - The Native American culture which followed the Archaic period. Woodland culture survived until contact with European settlers, from about 2,000 B.C. to between A.D. 1600 and 1800. Woodland culture is typified by settlement in small villages, the adoption of agriculture, use of pottery and the invention of the bow.

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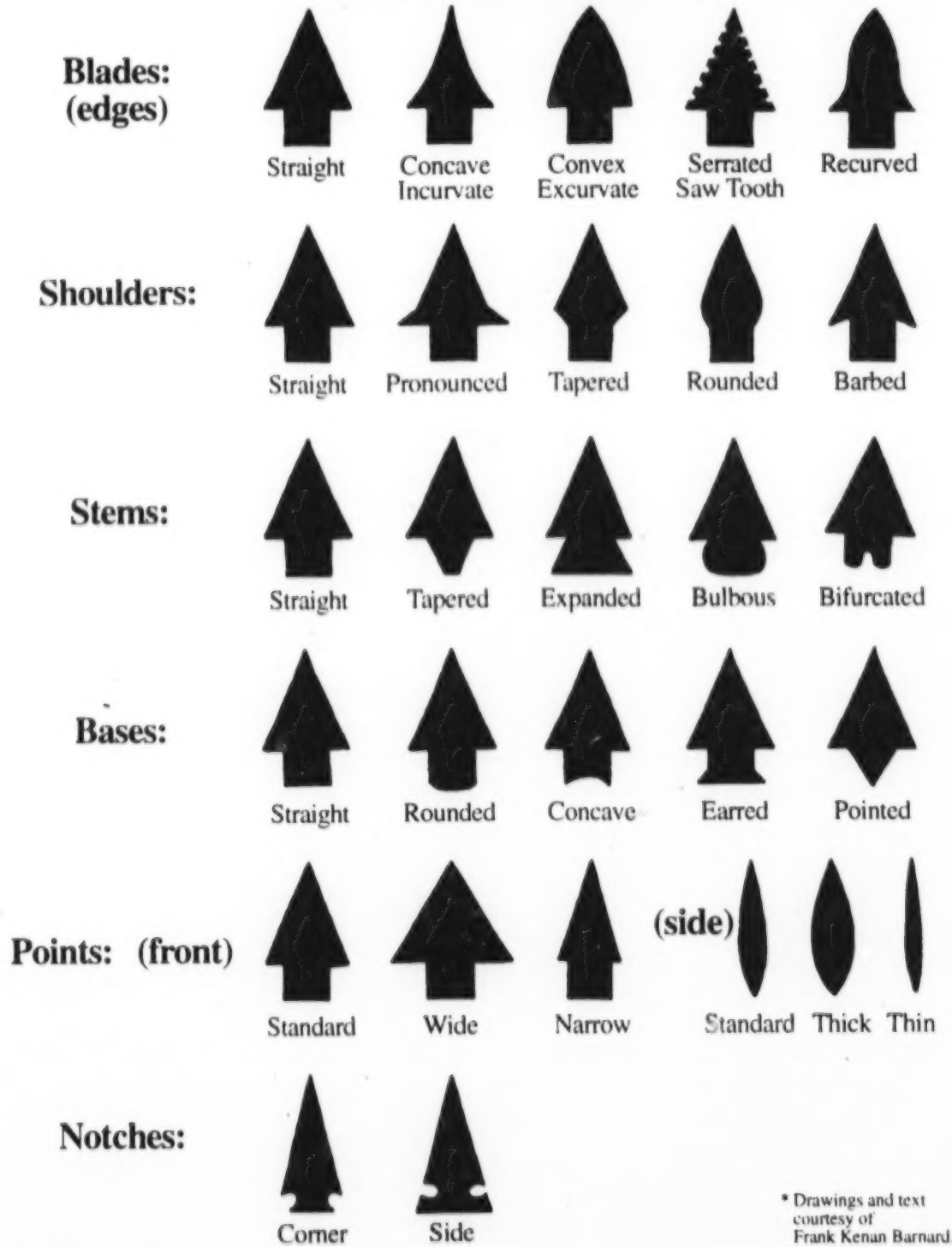
Reference Guide to Projectile Points and Ceramic Vessels at Lake Phelps

* Projectile Point Nomenclature



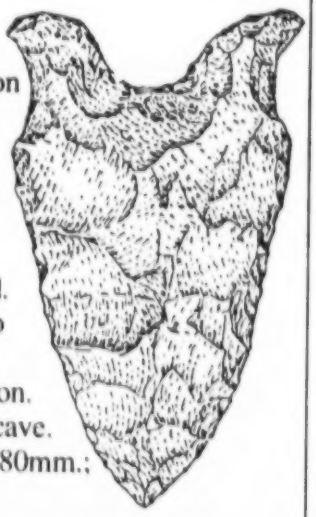
* Drawings and text courtesy of Frank Kenan Barnard.

Projectile Points Found at Lake Phelps

Clovis

Clovis (12,000-10,000 BC) is one of the oldest projectile points in the United States and is found in just about all parts of the country, including southeastern North Carolina. Most Clovis points are easily recognized by a prominent flute, which is a large flake or blade, which has been removed from the base of the point. The Clovis is a thin point, lanceolate or leaf-like in shape. It was probably used on the tip of a thrusting spear. Length: Average 60 mm.

Hardaway



The Hardaway Dalton (10,000 -9,000 BC) is a broad and thin point. The edges of the point are sharply tapered yet not as sharp as the Hardaway side notched. The sides are straight to slightly rounded with occasional, light serration. The base is deeply concave. Length: Range 50mm.-80mm.; Average 60 mm.

The Hardaway side notched (10,000-9,000 BC) is a small, broad, thin triangular point with straight to rounded sides which taper to a sharp point. The base is concave. Length: Range 28 mm. - 50 mm.; Average 35 mm.

Palmer

The Palmer (10,000-8,000 BC) is a small fairly thin, triangular point with distinct corner notchings. The edges of the point are straight to rounded and often serrated. Many Palmers have sharp barbs that are created by deep notching. The base is slightly rounded to slightly concave, and most bases, as well as notches, are ground. Length: Range 28 mm. - 60 mm.; Average 35 mm.

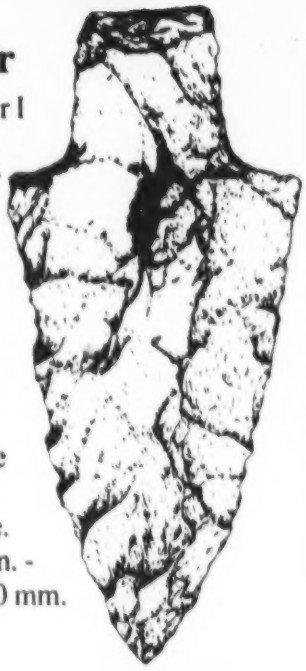
Kirk

The Kirk corner notched (8,000-5,000 BC) sides may be straight to rounded and occasionally serrated. The bow and arrow were not invented until several thousand years later, yet the Palmer and Kirk corner notched points are often mistakenly considered to be "typical arrowheads." Length: Range 40 mm. - 100 mm.; Average 60 mm.

The Kirk stemmed points (8,000-5,000 BC) have long dagger-like blades with deep serrations and broad stems. The edges are straight to concave or recurve, and often serrated. These points have pronounced shoulders which taper into large corner notches. The stem expands toward the base. Length: Range 70 mm. - 150 mm.; Average 100 mm.

Note: Projectile points are actual size.

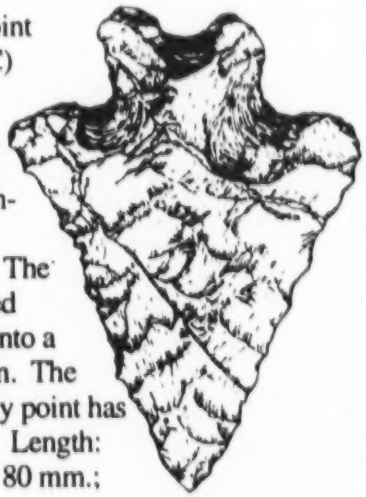
Savannah River



The Savannah River I (3,000-2,000 BC) is a large, heavy triangular point with straight to rounded sides. The prominent shoulders are usually at right angles to the stem. The stems are mostly straight, but some very broad points have tapered stems. Bases are straight to concave. Length: Range 70 mm. - 170 mm.; Average 100 mm.

The Savannah River II (3,000-1,900 BC) is a heavy triangular point. Most points have straight to rounded sides. While most shoulders are at right angles to the stem, some are rounded, and some are barbed. Length: Average 50 mm.

Stanly



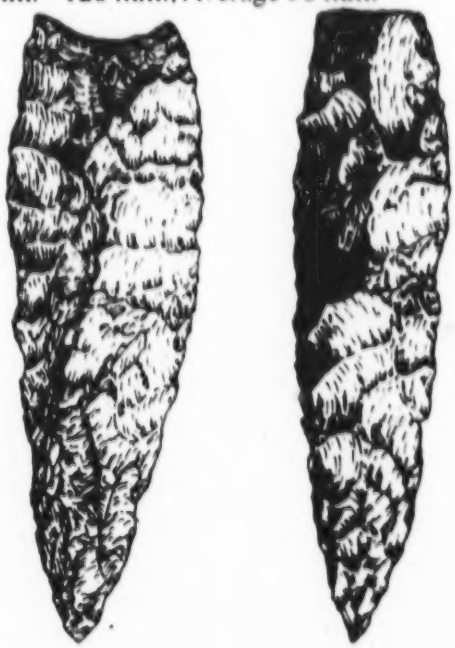
The Stanly point (6,000-4,000 BC) is a broad, thick triangular point. The edges may be straight to concave and often deeply serrated. The wide, pronounced shoulders taper into a short square stem. The base of the Stanly point has a shallow notch. Length: Range 40 mm. - 80 mm.; Average 55 mm.

Halifax

The Halifax point (4,000 BC to 3,000 BC) is fairly thick. The blade of the Halifax is usually long, and the edges are slightly rounded to slightly concave. The widest part of the Halifax is at the shoulder which tapers into a shallow side notch. The base may be straight to slightly concave. Both base and side notches are usually ground. Most Halifax points are made of milky quartz. Length: Range 29 mm. - 56 mm.; Average 44 mm.

Guilford Lanceolate

Guilford points (4,000-3,000 BC) are characterized by having long, thick blades and lanceolate appearances. The bases and lower parts of Guilfords are usually ground. The most common Guilford points have straight to rounded bases. Length: Range 50 mm. - 120 mm.; Average 90 mm.



Morrow Mountain

The Morrow Mountain I (5,000-3,000 BC) is a broad triangular point with straight, rounded, or convex edges. On some Morrow Mountain I points the edges are faintly serrated. They have broad shoulders which taper into a short stem, which may be pointed. Length: Range 30 - 70 mm.; Average 45 mm.

The Morrow Mountain II (4,000-3,000 BC) point tends to have a longer, narrower blade than the older Morrow Mountain I. Its tapered and pointed stem is also usually longer than the Morrow Mountain I. Length: Range 30 mm. - 80 mm.; Average 60 mm.

Roanoke

The large Roanoke (1,000 BC - AD 1715) are triangular in shape. The large Roanoke points have straight to concave sides and slightly concave bases. Length: Range 20 mm - 60 mm.; Average 43 mm.

The small Roanoke point (1,000 BC - AD 1715) is a smaller version of the large Roanoke. It is small to very small in size. It is triangular in shape with straight to concave sides. The base can be straight to slightly concave. Length: Average 25 mm.

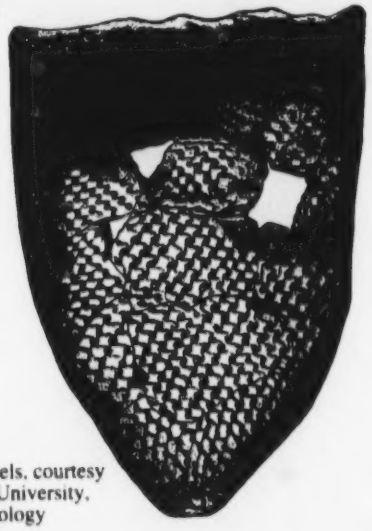
*Vessels Found at Lake Phelps

Croaker Landing Plain Vessel with Lug Handles

The Croaker Landing plain vessels with lug handles, Pettigrew variety, (1700-1000 BC) have a surface which is plain, cord marked or covered with wavy lines. They are tempered with lumps of dried clay. Size: approximately 20 cm tall by 30.5 cm wide.

Mount Pleasant Net Impressed Vessel

Mt. Pleasant net impressed vessels (300 BC - AD 800) have a surface finish which is plain, cord marked impressed with net or fabric, or incision (chevron) decorated. They are tempered with sand and have pebble inclusions. Size: approximately 38 cm tall by 30.5 cm wide.

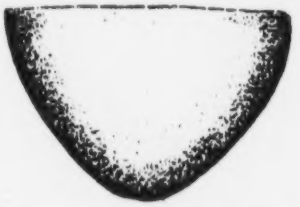


* Drawings of vessels, courtesy of East Carolina University, Dept. of Anthropology

Colington Vessels

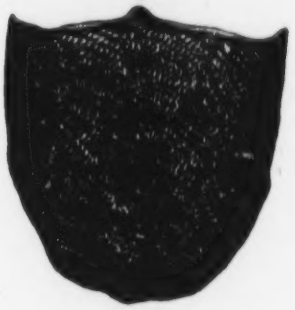
The Colington vessels have a surface which is plain, fabric impressed, simple stamped or incision (chevron) decorated. They are tempered with crushed oyster or mussel shells.

Colington Phase Miniature Vessel (AD 800 - 1650). Size: approximately 5 cm tall.



Colington Phase Plain Vessel (AD 800 - 1650). Size: approximately 10 cm tall.

Colington Phase Fabric Impressed Vessel with Castellated Rim (AD 800 - 1650). Size: approximately 18 cm tall.



Deep Creek Cord Marked Vessel

Deep Creek cord marked vessels (1,000 - 300 BC) have a surface finish which is plain, cord-marked, net or fabric impressed or incision decorated. They are temperedwith fine to coarse sand. Size: approximately 46 cm tall by 46 cm wide.

SCHEDULING WORKSHEET

For office use only:
Date request received_____ Request received by_____

1) Name of group (school) _____

2) Contact person _____ _____
name phone (work) (home)

_____
address

3) Day/date/time of requested program _____

4) Program desired and program length _____

5) Meeting place _____

6) Time of arrival at park _____ Time of departure from park _____

7) Number of students _____ Age range (grade) _____
(Note: A maximum of 30 participants is recommended.)

8) Number of chaperones _____
(Note: One adult for every 10 students is recommended)

9) Areas of special emphasis _____

10) Special considerations of group (e.g. allergies, health concerns, physical limitations)_____
_____

11) Have you or your group participated in park programs before? If yes, please indicate previous programs attended: _____
_____

12) Are parental permission forms required? _____ If yes, please use the Parental Permission form on page 9.2.

I, _____, have read the entire Environmental Education Learning Experience and understand and agree to all the conditions within it.

Return to: Pettigrew State Park
Route 1, Box 336
Creswell, NC 27928

PARENTAL PERMISSION FORM

Dear Parent:

Your child will soon be involved in an exciting learning adventure - an environmental education experience at _____. Studies have shown that such "hands-on" learning programs improve children's attitudes and performance in a broad range of school subjects.

In order to make your child's visit to "nature's classroom" as safe as possible we ask that you provide the following information and sign at the bottom. Please note that insects, poison ivy and other potential risks are a natural part of any outdoor setting. We advise that children bring appropriate clothing (long pants, rain gear, sturdy shoes) for their planned activities.

Child's name _____

Does your child:

- Have an allergy to bee stings or insect bites?_____
  If so, please have them bring their medication and stress that they, or the group leader, be able to administer it.

- Have other allergies? _____

- Have any other health problems we should be aware of?_____
  _____

- In case of an emergency, I give permission for my child to be treated by the attending physician. I understand that I would be notified as soon as possible.

_____ _____
Parent's signature date

Parent's name _____ Home phone _____
(please print) Work phone _____

Family Physician's name _____ phone _____

Alternate Emergency Contact

Name_____ phone _____

NORTH CAROLINA PARKS & RECREATION
PROGRAM EVALUATION

Please take a few moments to evaluate the program(s) you received. This will help us improve our service to you in the future.

1. Program title(s) _____ Date _____

   Program leader(s) _____

2. What part of the program(s) did you find the most interesting and useful? _____

   _____

3. What part(s) did you find the least interesting and useful? _____

   _____

4. What can we do to improve the program(s)? _____

   _____

   _____

5. General comments _____

   _____

   _____

   _____

LEADERS OF SCHOOL GROUPS AND OTHER ORGANIZED YOUTH GROUPS PLEASE ANSWER THESE ADDITIONAL QUESTIONS:

6. Group (school) name _____

7. Did the program(s) meet the stated objectives or curriculum needs? _____

   If not, why? _____

   _____

Please return the completed form to park staff. Thank you.

Pettigrew State Park
Route 1, Box 336
Creswell, NC 27928